

CLAIMS LISTING

1-9. (cancelled)

10. (currently amended) A fine pore filter prepared by the

method of: ~~any of claims 1-9~~

forming a slurry comprising solvent, alumina and at least

0.01 wt % surfactant wherein said slurry has

sufficiently low shear stress at high shear rates less

than 12,000 dynes/cm² at a shear rate of 500/sec. such

that it can enter organic foam with pore size equal to

or less than 60 ppi;

impregnating an organic foam with said slurry to form an

impregnated foam;

drying said impregnated foam to form a dry impregnated foam;

impregnating an organic foam with said slurry to form an

impregnated foam;

drying said impregnated foam to form a dry impregnated

foam;

heating said dry impregnated foam to remove said organic

foam thereby forming a green ceramic; and

heating said green ceramic to a temperature sufficient to

sinter said green ceramic wherein

said filter has a density of less than 10% of the
theoretical density for a ceramic material of the same
size and a compressive yield stress of at least 20
psi.

11. (cancelled)

12. (currently amended) A filter for filtering impurities from molten metal wherein said filter comprises ceramic and said filter has a density of less than 10% of the theoretical density for a ceramic material of the same size and a compressive yield stress of at least 20 psi and said filter has a porosity no coarser than 60 ppi.

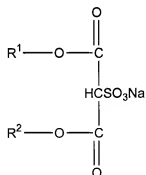
13. (currently amended) The filter of any of claim ~~claims 10 or~~ 12 wherein said filter has a density of no more than 8% of the theoretical density for a ceramic material of the same size.

14. (original) The filter of claim 13 wherein said filter has a density of no more than 6% of the theoretical density for a ceramic material of the same size.

15. (currently amended) The filter of ~~any of claims 10 or~~ claim 12 wherein said filter has a compressive yield stress of at least 40 psi.

- 16.(original) The filter of claim 15 wherein said filter has a compressive yield stress of at least 60 psi.
- 17.(original) The filter of claim 16 wherein said filter has a compressive yield stress of at least 80 psi.
- 18.(currently amended) A filter of claim 12 ~~any of claims 12-17~~ wherein said filter has a density of at least 12% of the theoretical density for a ceramic material of the same size and a compressive yield stress of at least 90 psi.
- 19(cancelled)
- 20.(cancelled)
- 21.(currently amended) A filter of claim 12 ~~any of claims 10 or 12-17~~ comprising a pressure drop of less than 3 in/water at an air flow velocity of 285 ft/min. in a 4 inch diameter circular area.
- 22.(currently amended) A ~~sintered alumina~~ filter of claim 12 ~~any of claims 10, 12-18 or 21~~ having dimensions of at least about 38.1 x 38.1 x 2.54 cm to no larger than about 76.2 x 76.2 x 7.62 cm.
- 23.(new) The fine pore filter of claim 10 wherein said filter has a density of no more than 8% of the theoretical density for a ceramic material of the same size.

- 24.(new) The fine pore filter of claim 10 wherein said filter has a compressive yield stress of at least 40 psi.
- 25.(new) A filter of claim 13 wherein said filter has a density of at least 12% of the theoretical density for a ceramic material of the same size and a compressive yield stress of at least 90 psi.
- 26.(new) A filter of claim 10 comprising a pressure drop of less than 3 in./water at an air flow velocity of 285 ft/min. in a 4 inch diameter circular area.
- 27.(new) A filter of claim 10 having dimensions of at least about 38.1 x 38.1 x 2.54 cm to no larger than about 76.2 x 76.2 x 7.62 cm.
- 28.(new) The fine pore filter of claim 10 wherein said surfactant comprises Formula I:



Formula I

wherein R¹ and R² independently represent an alkyl of 1-8 carbons with the proviso that the number of carbons in R¹ and R² combined does not exceed 15.

- 29.(new) The fine pore filter of claim 28 wherein wherein the number of carbons in R¹ and R² combined does not exceed 14.
- 30.(new) The fine pore filter of claim 29 wherein the number of carbons in R¹ and R² combined does not exceed 13.
- 31.(new) The fine pore filter of claim 10 wherein said slurry comprises no more than 1 wt% surfactant.
- 32.(new) The fine pore filter of claim 10 wherein said filter has a density of no more than 10% of the theoretical density for a ceramic material of the same size.
- 33.(new) The fine pore filter of claim 10 wherein said filter has a density of less than 10% of the theoretical density for a ceramic material of the same size and a compressive yield stress of at least 20 psi
- 34.(new) The fine pore filter of claim 10 wherein said alumina is selected from sintered alumina and phosphate bonded alumina.